

ABSTRACT OF THE DISCLOSURE

A heterojunction bipolar transistor (HBT) with improved characteristics is provided. A III-V compound 5 semiconductor having Bi added thereto is used for a base layer of a GaAs-based or InP-based HBT. For example, a GaAs-based HBT is formed by successively stacking a subcollector layer made of n⁺-GaAs, a collector layer made of n⁻-GaAs, a base layer made of p⁺-GaAsBi, an emitter layer made of n-InGaP, 10 a first cap layer made of n-GaAs, and a second cap layer made of n⁺-InGaAs on a substrate 1 made of single crystal GaAs.